1975 | ✓ (189)

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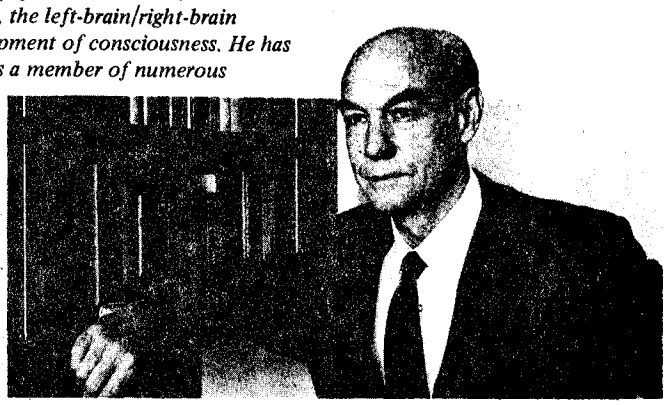

SCIENCE LOOKS AT HUMAN VALUES

An Interview with Roger W. Sperry, Ph.D.

Virginia McIntire

VM: Dr. Sperry, in the January 1974 issue of *Engineering & Science**, you made the challenging statement that human values have become the number-one problem for science during the 1970's. How did you, as a psychobiologist, arrive at this traditionally philosophical and religious theme as a prime concern for science?

Dr. S: There are several points I had in mind. One is the key importance of human values in controlling the course of events. In addition to their commonly recognized personal, religious, or philosophic significance, human values can also be viewed in objective scientific terms, as a universal determinant in all decision making. All decisions boil down to choices among alternatives of what is most valued according

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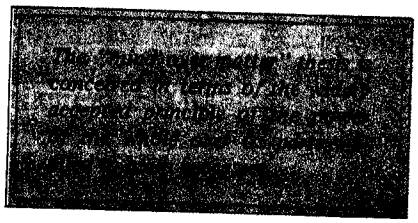

to whatever value system prevails. What an individual or a society does is determined largely by what is valued. Viewed in engineering terms, human value priorities stand out as the most strategically powerful causal control agent now shaping world events. While other aspects of our current crisis problems already receive much attention, the human value determinants have been selectively neglected, considered out of bounds to science.

VM: Then do you place the problem of values above the more tangible problems such as poverty, pollution, and overpopulation?

Dr. S: Yes, on the grounds that those conditions are man-made and are very largely a product of human values. Also they are not correctable on any long-term basis without first changing the underlying human value priorities involved. The strategic way to remedy them is to correct the social value priorities directly, in advance, rather than waiting for the value changes to be forced by changed conditions. Otherwise, we are

doomed always to live on the margins of tolerability, because only when things begin to get intolerable does the voting majority get around to changing established values.

VM: But since science is supposed to deal with facts, and not with values, how can this properly be a problem of science?

Dr. S: The long established impression that value judgments lie outside science was based largely in materialistic views which have long dominated the philosophy of science, especially since the advent of Behaviorism in this country and dialectical materialism in Russia. On these terms science is supposed to tell us what *is*, but not what *ought* to be, *de*scribing but not *pre*scribing; and science is objective, while values are subjective.

But this kind of reasoning no longer holds in terms of current mind-brain theory, which is more mentalistic and now allows in principle a scientific treatment of subjective mental phenomena, including values as causal agents. Also, we now recognize that facts are always interpreted by brain processes, which are already inherently goal-directed, with inbuilt value constraints. In terms of brain processing, facts constantly interact with and mold one's sense of value.

Today's modified concept of brain function allows for mind-matter interaction within the brain. I describe this view as one which places mind in the driver's seat, in command, over matter. It idealizes ideas and ideals over physicochemical interactions, and recognizes conscious mental forces as the crowning achievement of evolution.

VM: Isn't that what common sense and intuitive judgment indicated all along?

Dr. S: Yes. But not science . . . that is, not until we developed a conceptual model for mind-matter interaction in terms acceptable to neuroscience; one which did not violate the principles of scientific explanation.

VM: Does this new interpretation make you a mentalist?

Dr. S: Beginning in the early 1950's, I described consciousness as a functional or operational derivative of brain activ-

ity. But later, in trying to account for the unity and duality of conscious experience in split-brain experiments, I came to appreciate that this operational interpretation necessitates a causal working influence of mental events in brain activity. That is, the conscious effects must work *into* brain activity as well as being derived *from* it. Accepting that conclusion forces a change in one's whole philosophy.

VM: When did this turnaround occur with you?

Dr. S: I first spelled it out in print in about 1965, though not without some apprehension. The reactions, however, were almost uniformly positive.

VM: Does this change the fatalist view in science that all our behavior is causally predetermined and freedom of choice is an illusion?

Dr. S: In part. The "mind over matter" thesis is conceived in terms of the widely accepted principle of the power of the whole over its parts, applied to brain processes. Mental events are seen to control the course of subsidiary neural action in the same way that the organism as a whole controls its parts; volitional behavior is seen to be determined at a mental as well as at the molecular and physiological levels of causation. It yields a kind of personal self-determination that is exactly what we all want. Complete freedom from causation would leave us subject to random chance and meaningless, unpredictable caprice. We want personal control.

VM: Do you see any practical impact of this theoretical switch among other scientists?

Dr. S: I think so. Given this model, the humanists and mentalists of all kinds have been able to stand up to the behaviorists and physical scientists in a way they could not do before. Science has not previously had an acceptable explanatory concept for psycho-physical interaction. In fact, for decades, it has been denounced on principle. The new brain model provides support for a science of mind.

VM: How does the scientific approach to a new ethics follow?

Dr. S: Many of the reductionist, materialistic, and deterministic aspects previously found objectionable in a scientific approach to ethical values no longer apply. With the whole, rich world of inner mental experiences now included in principle within the province of science in a unifying view of mind and brain, "scientism" — the idea that higher meaning and values can be found through science — takes on new dimensions and a whole new look. On these new terms, the world view of science is not reductionistic; the real world is not interpreted merely in terms of its elements and what is quantifiable and measurable. The pluralistic qualitative richness of nature and reality are retained.

VM: We are told that science is value-free, yet you see the emergence of a "science of values" that would deal with the structure and origins of our value systems and their objective roles in decision making. Would you go further and extend science to ethical questions of what *kinds* of moral values society ought to uphold?

Dr. S: Yes, for although the two are different, they are not unrelated. You don't force or impose new values, of course; they have to be sold. But an improved understanding of how human value systems are derived and organized, and how they operate in the decision process should help to improve our general sense of value and also help society to make better value decisions and wiser moral judgments.

It is more than this, however, for I also think of science itself as a basis of ethics. I use "science" in a broad sense now to include the knowledge, insight, belief, perspective, and understanding that come from science — especially the validity, reliability, and credibility of the scientific way as an approach to truth insofar as the human brain can know it. The focus here is on the critical differences that come from different world views — in particular, that of science as opposed to various mythological, metaphysical, existential and other schemes man has tried to live by — and the world view of science seems our best bet today.

VM: Does this include man's most sacred values and the reli-

gious search for ultimate meaning?

Dr. S: They necessarily go together. Any answer that gets accepted regarding the higher meaning and value of life as a whole then becomes a prime value determinant and logically conditions the entire subsidiary value structure of society.

VM: You have written that it is impossible in any final sense to prove one person's set of values to be better than another's. Why then should we respect an ethic based in science over any other?

Dr. S: This applies to the final logical proof for anything; even the laws and "truths" of physics and mathematics assume starting axioms which are all-important. A scientific approach in ethics means starting with axioms that work and a frame of reference that is valid and acceptable in terms of empirical scientific standards.

VM: What is an example of such a starting axiom?

Dr. S: One I have used before goes something like this: "The grand design of nature, perceived in four dimensions through time, to include the forces that move the universe and created man, is something intrinsically good that it is right to preserve and enhance, and wrong to destroy or degrade." This has some empirical grounding in man's inherent value system that may not be immediately apparent. But starting with some such axiom; even if only by arbitrary agreement, and integrating it with the world view of science on the one hand and with the inherent value system of human nature on the other, it is possible to build a value-belief system that provides higher meaning, criteria for values, and to me seems equal in spiritual appeal to some that we've had in the past. It is also much more in tune with reality.

VM: You have mentioned a common denominator shared by all human ethical systems and based in man's innate nature; what special differences would you find emerging from one founded in science?

Dr. S: For the most part, these remain to be worked out and will take time to develop. Among other things, I'd expect

such an approach to lead to a special reverence for nature and to a heightened respect for species' rights and for the meaning and dignity of all life, not just that of the human being.

In the eyes of science, man's creator becomes the vast, interwoven fabric of all evolving nature. Man is tops, but it becomes man *in* nature, rather than above or against nature, that will take priority. This includes the whole ecosystem. The conservation of resources, avoidance of pollution, and the recycle philosophy are supported with a new dedication that goes beyond mere human expediency. The meaning of all life is at stake. Humanity needs to see itself in a meaningful relationship to something bigger and more important than itself in order to fully perceive its own meaning.

VM: Wouldn't this also help in providing answers to practical, everyday moral questions?

Dr. S: Yes. We will all come out with a different sense of value, generally, that applies in decisions everywhere. We need today a more "godlike" sense of value that takes into account the entire ecosystem through time, including the unborn generations, and not omitting the promise of better things to come in the upward thrust of evolution.

VM: Don't many people find it difficult to think in this comprehensive fashion, especially since the future may seem remote or not especially relevant to them?

Dr. S: Isn't that what *Science of Mind* Magazine and the church are all about? Helping man try to lift himself above his natural, animalistic, short-term perspective, into a higher and more transcendent sense of value?

Hard-nosed scientific thinking tells us these higher perspectives are more needed today than ever before. Of course, society can't count on a voluntary carry-through on these higher planes; legal reinforcement is necessary. But our laws are deeply rooted in traditions formed when an expanding population was a benefit, or at least no threat. Once we have passed the optimum population level, many changes and even reversals in legal and moral pressures are needed.

Since our laws are imbedded in social ethics, it again comes back to the question of first changing society's value structure. The change is now occurring — as fast as adverse conditions get worse! It is a question once more of whether we choose to continue to let our ethics be shaped in this way by situational feedback around levels of tolerability, or to aim in advance at something more ideal.

VM: You spoke of a fusion of science and religion as promising more in this direction. Where would you as a scientist begin taking practical steps?

Dr. S: A requisite first step is to clear the way by correcting the established doctrine that traditionally has kept science separate from moral judgment. We have to demonstrate convincingly to ourselves and to leaders in all disciplines, and in the face of all counter-arguments, that this old dichotomy is not sound; that there is a better way to go.

Once mankind finds it is respectable to apply science in the realm of human values, thinking along these lines will develop and many things will start to happen that will surely benefit all of us, particularly coming generations.